

Claims

[c1] What is claimed is:

1.A method comprising the steps of:

- a. identifying an injector source and a collector circuit, at least one of the injector source and the collector circuit having a parameter;
- b. providing latch-up criteria for the collector circuit;
- c. determining latch-up sensitivity of the collector circuit based on the latch-up criteria and the parameter;
- d. modifying the parameter to adjust the latch-up sensitivity of the collector circuit; and
- e. determining the latch-up sensitivity of the collector circuit based on the latch-up criteria and the modified parameter.

[c2] 2.The method of claim 1, wherein step a) further comprises the step of identifying the injector source as a source that unintentionally activates the collector circuit, resulting in latch-up of the collector circuit.

[c3] 3.The method of claim 1, wherein step a) further comprises the step of identifying the parameter as at least one of a physical, structural and spatial parameter.

- [c4] 4.The method of claim 3, further comprising the step of identifying the parameter through at least one of a schematic generator, a graphical generator and a symbol generator.
- [c5] 5.The method of claim 1, wherein step d) further comprises the step of modifying the parameter with a graphical user interface.
- [c6] 6.The method of claim 1, wherein step d) further comprises the step of modifying the physical size of the injector source.
- [c7] 7.The method of claim 1, wherein step a) further comprises the step of identifying the parameter through at least one parameterized cell.
- [c8] 8. A computer program product comprising a computer useable medium having computer readable program code embodied therein for analyzing and modifying latch-up sensitivity of a circuit design, the program product comprising:
program code configured to identify an injector source and a collector circuit, at least one of the injector source and the collector circuit having a parameter;
program code configured to determine latch-up sensitivity of the collector circuit based on a latch-up criteria

and the parameter; and
program code configured to modify the parameter to adjust the latch-up sensitivity of the collector,
wherein the determining program code is also configured to determine the latch-up sensitivity of the collector circuit based on the latch-up criteria and the modified parameter.

- [c9] 9.The program product of claim 8, wherein the injector source is identified as a source that unintentionally activates the collector circuit, resulting in latch-up of the collector circuit.
- [c10] 10.The program product of claim 8, wherein the identifying program code identifies the parameter as at least one of a physical, structural and spatial parameter.
- [c11] 11.The program product of claim 10, wherein the identifying program code includes at least one of a schematic generator, a graphical generator and a symbol generator.
- [c12] 12.The program product of claim 8, wherein the parameter is modified with a graphical user interface.
- [c13] 13.The program product of claim 8, wherein the modifying program code further comprises program code configured to modify a physical size of the injector source.

[c14] 14.The program product of claim 11, wherein the identifying program code further comprises program code configured to identify the parameter through at least one parameterized cell.

[c15] 15.A latch-up analysis and parameter modification system comprising:

an injector source and collector circuit identifier that identifies an injector source and a collector circuit, at least one of the injector source and the collector circuit having a parameter;

a latch-up identifier providing latch-up criteria for the collector circuit;

a parameter modification unit to modify the parameter; and

a latch-up analyzer that determines latch-up sensitivity of the collector circuit based on the latch-up criteria of the latch-up identifier and at least one of the parameter and the modified parameter.

[c16] 16.The system of claim 15, wherein the injector source is a source that unintentionally activates the collector circuit, resulting in latch-up of the collector circuit.

[c17] 17.The system of claim 15, further comprising an injector source and collector circuit parameter identifier that identifies the parameter as at least one of a physical,

structural and spatial parameter.

- [c18] 18.The system of claim 17, wherein the injector source and collector circuit parameter identifier comprises at least one of a schematic generator, a graphical generator and a symbol generator.
- [c19] 19.The system of claim 18, wherein the at least one of a schematic generator, a graphical generator and a symbol generator comprises at least one parameterized cell.
- [c20] 20.The system of claim 15, wherein the parameter modification unit includes a graphical user interface.